

## 6-1 Polygons

polygon--plane figure, formed by 3 or more segments that intersect at their endpoints

Sides--segments

~~ex:  $\overline{GY}$~~

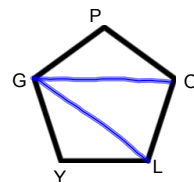
Vertex--endpoints

~~ex: P~~

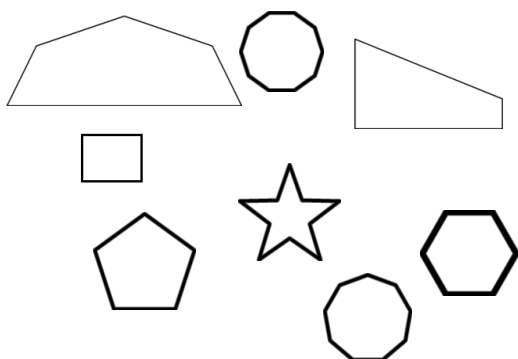
Diagonal--Segment that joins 2 nonconsecutive vertices

ex:  $\overline{GO}$ ;  $\overline{GL}$

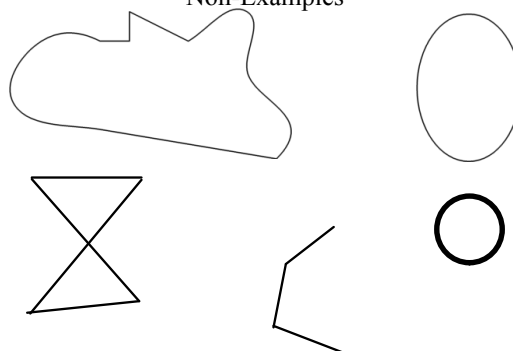
Name the polygon GPOLY POLYG




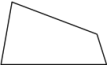


Examples of Polygons

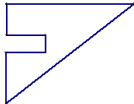

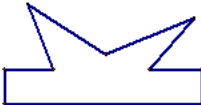



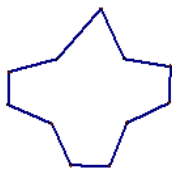
Non-Examples



Types of Polygons

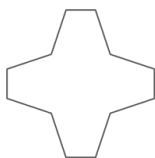
Shape	# of sides	Name
	3	Triangle
	4	Quadrilateral
	5	Pentagon
	6	Hexagon

	7	Heptagon	*
	8	Octagon	
	9	Nonagon	*
	10	Decagon	

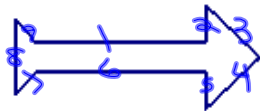
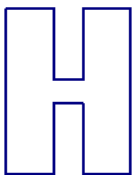


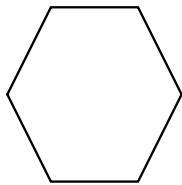
11-gon

Is the figure a polygon? *yes*  
If so, what type? *nonagon*



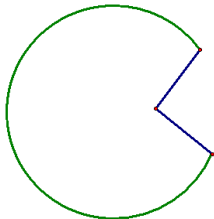
12-gon      Dodecagon



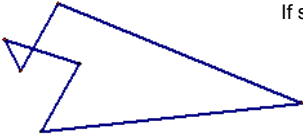


Is the figure a polygon?  
If so, what type?

yes  
hexagon



no



Is the figure a polygon?  
If so, what type?

no

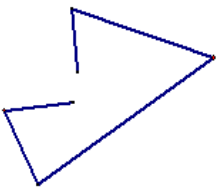


yes  
Pentagon

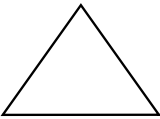


Is the figure a polygon?  
If so, what type?

yes  
quadrilateral

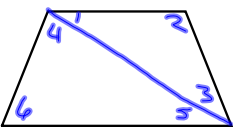


no



How many degrees are there in a triangle?

180°



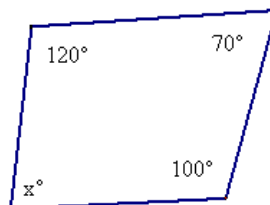
How many triangles?

2

So, how many degrees?

360°

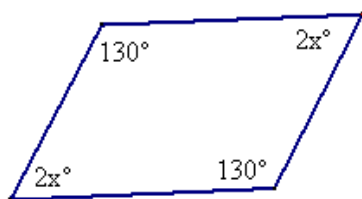
Theorem 6.1--Quadrilateral Interior angles Theorem--The sum of the measures of the interior angles of a quadrilateral is 360.



$$X + 100 + 70 + 120 = 360$$

$$X + 290 = 360$$

$$X = 70$$



$$2x + 130 + 2x + 130 = 360$$

$$4x + 260 = 360$$

$$4x = 100$$

$$x = 25$$

~~Extended day class work~~

p306-307

8-10, 16-19, 21-23